



**USAID DCHA ENVIRONMENTAL THRESHOLD DECISION FOR THE INITIAL
ENVIRONMENTAL EXAMINATION AMENDMENT (IEE-A)**

DCHA Office: Food for Peace
Country/Region: Ethiopia
Awardee: Catholic Relief Services (CRS)
Program Title: Joint Emergency Operation Plan (JEOP)
Award Number: FFP-A-12-00009
Life of Grant: 08-01-2012 to 09-30-2017
LOA Funding: LOA Amount: \$170,249,360; 202(e): \$5,697,400; ITSH: \$164,551,960;
Food Commodity: \$ 193,560 MT
Original IEE Link: http://gemini.info.usaid.gov/egat/envcomp/document.php?doc_id=46766

| | |
|--|--|
| ENVIRONMENTAL ACTION RECOMMENDED: | |
| Categorical Exclusion: X | Negative Determination w/ Conditions: X |
| Positive Determination: | Deferral: |
| Bureau Environmental Threshold Decision (ETD): Approval w/ Conditions | |

USAID Bureau Environmental Officer Approval:

This Environmental Threshold Decision (ETD) is to inform **Catholic Relief Services (CRS)** that the **IEE-A 2** has been approved with Conditions by the DCHA Bureau Environmental Officer (BEO), on **March 31, 2016**. CRS has undergone all necessary Mission and Washington clearances and meets the minimum 22 CFR 216 requirements, with the following 4 condition and 1 recommendation for implementation.

The DCHA BEO would like to thank CRS for this clear, well written IEE-A.

Condition 1: CRS must ensure that all vertical build construction activities meet appropriate climate and environmental standards and address social concerns.

Condition 2: CRS activities must ensure that new trees being planted will survive and contribute proportionally to the ecological goods and services lost by tree removal.

Condition 3: CRS must respond to the DCHA BEO with more information about how this gap was addressed within one month (4/30/2016) of today.

Condition 4: CRS must respond to the DCHA BEO with a plan for the environmental budgeting guidance and address the “no cost is required” comment within one month (4/30/2016) of today.

Recommendation 1: CRS should consider planning options for climate screening and sensitivity during implementation in accordance with upcoming requirements of the US Presidential Executive Order 13677.

Issue 1: Vertical build construction projects may not be meeting certain important climate and environmental standards and addressing social concerns.

Discussion: CRS’s activities related to the vertical build construction of warehouses must be carried out with due consideration of **climate risk and environmental impact considerations**. In the IEE-A, CRS identified several issues, such as proper site selection and the planting of trees, as important aspects of environmentally conscious construction. However, aspects that are not emphasized, such as use of paint types (avoidance of leaded paint) and proper disposal of construction waste, also have the potential for human health and environmental impacts. Thus, appropriate mitigation measures and monitoring indicators must be put into place in order to avoid such negative environmental impacts.

Use of Paints: For your awareness, Occupational Knowledge International (OK International), an international NGO, based in San Francisco, California (USA), has tested paint in stores in Ethiopia where they have found that a substantial portion of new paints contain lead compounds¹ Occupational Knowledge International (OK International) works to build capacity in developing countries to identify, monitor, and mitigate environmental and occupational exposures to hazardous materials in order to protect public health and the environment. OK International notes that while developed countries have implemented standards to regulate the use of lead in paint, much of the new paint currently sold in most countries contains high levels of lead.

Disposal of Hazardous Materials: Throughout construction projects, specific attention must be given to the appropriate disposal and use of hazardous waste. The inappropriate disposal of

¹ Occupational Knowledge International, <http://www.okinternational.org/leadpaint/Background>

hazardous waste poses a risks for the sustainability of construction projects. Mitigation measures must be put in place to dispose appropriately of hazardous waste and ensure that this type of waste does not cause contamination during the construction process. These mitigation measures, for example, can include the prevention of dumping of hazardous waste materials and the designation of storage areas so that hazardous materials are stored in durable leak proof containers with locking lids, and that these are kept closed.

For example, heavy metals can also be found in trace amounts in energy saving lighting (mercury in fluorescent light bulbs; lead, arsenic, nickel and other potentially dangerous and carcinogenic substances in LED light bulbs). The EPA has several resources on proper handling of broken CFL bulbs and best management practices for mercury containing light bulbs. Past ^{2 3} USAID programs have also adopted innovative measures for the safe treatment and disposal of mercury waste using sulfur complex immobilization processes, which can also be adopted on a smaller scale⁴ by grantees to address cumulative impacts of the disposal of such lighting related to project activities.

Climate Impacts on Ethiopian Construction: Built structures are intended to last for decades need to be designed to withstand exposure to an altered climate. Specifically project aspects sensitive to weather (e.g., materials, location) need to be examined to ensure that they are appropriate.

Adapting construction planning, design, operation, and maintenance to climate change involves ensuring that structures and the systems that sustain them are able to withstand increased variability and duration of temperature, wind, and precipitation. Additional information on climate change impact on construction projects can be found in the USAID Sector Environmental Guidelines for Construction <http://www.usaidgems.org/Sectors/construction.htm>.

Social Concerns: The IEE-A briefly outlines some of the social concerns related to construction. The land compensation of farmers is addressed in the IEE (although where the funds will come from is not, see Condition 5). Some additional social concerns that CRS should consider addressed includes the potential conflict between landowners over the new distribution of land through ensuring that social safeguards are in place. The DCHA BEO commends CRS for ensuring that farmers will be “compensated with at least the same size and quality of farmland.” (p. 6) However, special attention must given to ensure equity in the community and equal treatment among farmers in an effort to prevent any social conflict over land related issues.

² EPA, 2015, <http://www2.epa.gov/cfl/cleaningbrokenecfl#important>

³ EPA, 2014 <http://www3.epa.gov/epawaste/hazard/wastetypes/universal/lamps/faqs.htm#40>

⁴ EPA, 1998 <http://www3.epa.gov/epawaste/hazard/tsd/ldr/mercury/imoblzn2.pdf>

Condition 1: CRS must ensure that all vertical build construction activities meet appropriate climate and environmental standards and address social concerns.

Issue 2: Currently, loss of ecological goods and services and invasive tree species pose a challenge in Ethiopia.

Discussion: When planting trees to replace trees removed in this project, certain environmental precautions must be in place in order to ensure long-term ecological benefits.

Loss of ecological goods and services (EG&S): In planting trees, proper attention must be given to ensure the survival of new species and to minimize the loss of EG&S. For example, when considering tree replacement, cutting down a 30 meter baobab tree and replacing it with a 5 cm seedling does not address the loss of EG&S, such as shade, soil formation, water retention, etc. Appropriate planning must be in place to ensure that new trees both flourishes and compensates for losses in EG&S.

Invasive Species: Although well intentioned, the planting of new trees can have negative consequences and introduce invasive species that will reproduce in a rapid or uncontrollable manner into an area. Some accepted “local” species may in fact be invasive, and should be researched prior to further distribution and planting. This can impact native plants, animals, and other ecosystems, as well as impact human livelihoods, agricultural activities, and even increase flood risk due to clogging of drainage canals, etc. Controlling damages from invasive species can be extremely costly and sometimes nearly irreversible. Invasive species of trees are currently an issue in Ethiopia. See the Global Invasives Database for Ethiopia for currently identified invasive species present in Ethiopia: <http://www.issg.org/database/species/search.asp?st=sss&sn=&rn=Ethiopia&ri=19369&hci=-1&ei=-1&lang=EN>.

Condition 2: CRS activities must ensure that new trees being planted will survive and contribute proportionally to the ecological goods and services lost by tree removal.

Issue 3: Follow-up on challenge mentioned in previous ESRs.

Discussion: The previous ESRs from FY13 and FY14 mention the challenge of a knowledge gap “around environmental management in relation to food commodity and warehouse management among staff in partner institutions. Conduct trainings on environmentally sound design and management particularly on food commodity and warehouse management.”⁵ This challenge

⁵ ESR FY13, page 6.

poses an interesting problem for the project. The DCHA BEO would like further information about how this knowledge gap was and continues to be addressed.

Condition 3: CRS must respond to the DCHA BEO with more information about how this gap was addressed within one month (4/30/2016) of today.

Issue 4: Cost elements with proper environmental budgeting and “no cost is required.”

Discussion: In the EMMP table, many of the estimated costs for the project activities state that, “no cost is required.” This no costs it required provokes concerns for several of the activities and requires further explanation. For example, the compensation of farmers for their land lists that “no cost is required.” (p. 10) The text is unclear if no costs is required because only REST will be responsible to pay the compensation. If not, how will farmers be compensated with new land at no cost? Another example of the no cost concern is the Pesticide Spraying Fumigation. (p. 11) Does this mean that there will be no additional cost or that REST will be handling all the cost? Additionally, the DCHA BEO would like confirmation that there are sufficient funds to fumigate properly, in a manner that corresponds to the PERSUAP. These “no cost is required” estimated costs for activities requires further clarification.

For additional assistance on how to review a budget for environment, USAID has developed an [Environmental Compliance Budgeting Toolkit](#). Please refer to the budget toolkit in order to ensure that the project has adequately budgeted for environmental compliance for all aspects of the activities.

Condition 4: CRS must respond to the DCHA BEO with a plan for the environmental budgeting guidance and address the “no cost is required” comment within one month (4/30/2016) of today.

Issue 5: CRS awareness of the Executive Order 13767.

Discussion: CRS should be aware of the US Presidential Executive Order on Climate Resilient International Development. The memorandum states that climate resilience considerations must be incorporated into international development work. The complete Executive Order is available at: www.gpo.gov/fdsys/pkg/FR20140926/pdf/201423228.pdf.

Recommendation 1: CRS should consider planning options for climate screening and sensitivity during implementation in accordance with upcoming requirements of the US Presidential Executive Order 13677.

TITLE II ENVIRONMENTAL COMPLIANCE FACESHEET

Amendment of JEOP IEE No -2

Program Cooperative/Agreement Number:

Title of Program: Joint Emergency Operation (JEOP)

Awardee: Catholic Relief Services - Ethiopia

Host Country or Region: Ethiopia, East Africa

Award Number: AID-FFP-12-00009-10

Life of Activity: 08-01-2012 to 09-30-2017

Fiscal Year of Submission: 2016

| | |
|--|---|
| Funding Begin: 08-01-2012 | LOA Amount: <u>\$414,054,000</u> |
| Funding End: 09-30-2017 | Sub-Activity Amount¹: \$0 |
| Resource Levels: | Food Commodity: <u>635,846 MT</u> |
| Monetization Request: \$ 0 | 202(e): <u>\$11,617,700</u> ITSH: <u>\$67,096,500</u> |
| IEE amendment Prepared by: Catholic Relief Services | Date: February 24, 2016 |
| Date of Previous ESR: July, 2015 | Date of Most Recent IEE: July, 2012 |
| Contact: Marcus Cleveland; (410) 951-7245; marcus.cleveland@crs.org | |

IEE Amendment (Y/N): Yes, (Amendment No 2)

Additional references: USAID Environmental Compliance Procedures- TITLE 22 CODE OF FEDERAL REGULATION PART 216; Annotated IEE Outlines-USAID Ethiopia;
CRS/Ethiopia JEOP Environmental Mitigation and Monitoring Plan July, 2012;
CRS/Ethiopia JEOP Environmental Mitigation and monitoring Plan Amendment No -1 February, 2015.

ENVIRONMENTAL ACTION RECOMMENDED: (Place X where applicable)

☐ **Categorical Exclusion(s):** activities have no adverse effect (i.e., training, technical assistance; not to include any infrastructure rehabilitation.)

☒ **Negative Determination:** no significant adverse effects expected for activities which are well defined over the life of the award.

☐ **without conditions** (no special mitigation measures needed)

☒ **with conditions** (mitigation measures specified)

¹ CRS/Ethiopia's cost share

☐ **Positive Determination:** potential for significant adverse effect of one or more activities.
Appropriate environmental review needed/conducted.

☐ **Deferral:** elements not well defined; activities will not be implemented until amended IEE is approved. Briefly describe here:

1. Environmental Media and/or Human Health Potentially Impacted
(Check all that apply):

Air ☐; Water ☒; Land ☐; Biodiversity (deforestation) ☒; Human Health ☒; Social ☒; None ☐

2. USAID APPROVAL OF RECOMMENDED ENVIRONMENTAL ACTION

A. Food for Peace Mission or Regional Office, as appropriate:

[Signature]
Mission Environmental Officer

Date: March 9 / 2016

Regional Environmental Advisor*

Date: _____

[Signature]
Food for Peace Officer

Date: 3/11/2016

[Signature]
Mission Director

Date: 3/17/2016

B. Food for Peace, Washington

[Signature]
Agreement Officer's Technical Representative

Date: 3/29/16

[Signature]
Agreement Officer

Date: 30/mar/2016

Agreement Officer

Date: _____

C. Concurrence:

Erika J. Clesceri
DCHA Bureau Environmental Officer:

Date: 3/31/2016

Accepted: ☒ Unaccepted: ☐

*Clearance is suggested but not mandatory

3. Summary of Findings

This IEE amendment included major activities, potential impacts, and provided threshold decisions and environmental mitigation and monitoring plan developed for additional activities within JEOP/Ethiopia program. The amendment has been developed under the guidelines issued by USAID/FFP to Title II awardees for Environmental Compliance Procedures. The following environmental threshold determinations are recommended for the planned activities under the program.

A Negative Determination with Conditions is recommended pursuant to 22 CFR 216.3 (a) (2) (i) and (iii) for the following activities, which need close monitoring of conditions while implementing:

- Site clearing, Securing land that can be used for store construction; and removal the topsoil.
- Excavation, construction of temporary stores, and construction of the main stores
- Warehouse keeping like cleaning the stores and the backyard; loading and unloading; and spraying of chemicals.

Environmental concerns associated with the design and site clearing, construction and warehouse management will be monitored and addressed throughout the implementation of the program. Before the commencement of the construction of stores, the farmers who may lose their farmland for construction of the stores will be compensated with farmlands that can have at least the same size and quality of land. Responsible awardees and CRS will follow up and monitor the implementation of the proposed mitigation measures.

1. Justification for the Amendment

JEOP is implemented by consortium members (Catholic Relief Services (CRS), CARE, Save the Children International (SCI), World Vision (WV), Food for the Hungry (FH) and the Relief Society of Tigray (REST). The JEOP consortium is led by Catholic Relief Services (CRS). When JEOP was approved in July 2012 for two years, an Initial Environmental Examination with its Environmental Mitigation and Monitoring Plan (EMMP) was approved by USAID. Due to some additional activities, the original IEE was amended in February, 2015 and approved as Amendment Number 1.

During the approval of the original IEE, warehouse construction wasn't included as part of program activity. However, REST has planned to construct local warehouses/stores in six final distribution points (FDPs), approved in the Year IV PREP and therefore JEOP needs to update JEOP's IEE, through Amendment Number 2 to USAID/Ethiopia, to accommodate additional activities planned on store construction. The purpose of this IEE amendment is to provide the necessary environmental documentation, pursuant to 22 CFR 216 (Regulation 216) for the new program activities. This document will ensure environmental compliance and also permit the implementation of the program activities in accordance with USAID Environmental Policies and Procedures. Moreover, it helps to minimize the likely impacts of such warehouses on environment and human well-being.

The construction of these stores will shorten the distance that the community traveling to transport their ration. The communities, especially women, are highly affected given the distance from their villages to FDPs. The construction of stores would benefit mainly the women. Women and men can use the time that would have been elapsed in traveling more productively, including taking care their family, working on their farms and/or other income generating activities. Traveling a long distance is also burdensome and tiresome, especially for those who have limited or no means of transport to take their ration. Thus, the benefit of constructing the stores close to the community from an economic and social point of view is very crucial. Amendment # 2 is, therefore, prepared with this basic fact.

2. Food commodity Stores in final distribution points

This section is relevant to and should be considered part of Section One and Two of the original IEE of Joint Emergency Operation (JEOP/Ethiopia) page 10 and 14.

To transport the food commodity to areas where the community is living and solve problems of the community associated with walking a long distance, the construction of stores in FDPs is very important. REST, therefore, has planned to construct food commodity stores in six FDPs in different woredas. Some of them will be built beside the existing FDPs to increase capacity while others will be in new sites. The proposed sites are briefly described as follows.

i) Edaga Arbi: One of the FDPs that REST is going to construct store is in Edega Arbi town, in Weree-Leke woreda. The store will be constructed within an existing compound where Rub Hall

and hallow block stores are constructed. The FDP backyard is fenced and it is surrounded by roads.

ii) Gerhusernay FDP: The site is found in Ahferom woreda. Three alternative sites were proposed to construct the store.

Alternative 1: This option is to construct in an existing site where WFP's Rubb Hall is found. The site is close to residents - within 30m. As the stores are found in an FDP where food commodities are stored for a short period of time, fumigation is unlikely. However, with unexpected situation the food commodities could be affected by pests and there could be a possibility of fumigation. Fumigation or any other pesticide application isn't recommended in warehouses that are close to residents. Therefore, this was the last option of the proposed three alternatives.

Alternative 2: The site is located far from residents. It is found on the border of the town. It has wide space to construct different facilities within the warehouse compound. The possible impacts associated with warehouse management are unlikely as the site is far from human intervention. However, about 500m of road has to be constructed to access the site. If the road is constructed this option is ideal site for warehouse construction. The site will not be affected by the expansion of the town as the expansion is on the other side of the proposed site due to topographic limitation. REST has already discussed with the local administration that the road will be constructed through public work mobilization. The site is not suitable for any other agricultural activity as it is covered by Rock out crops.

Alternative 3: The site is located on the border of the town, beside the main road. The site isn't as wide as the second option but it is accessible to transport. Since it is far from residents it is the second best option next to alternative 2. This site is also characterized by very shallow soil depth and the majority of the places are covered by rock outcrops.

The foundation in all the three alternative sites is suitable for construction as the area is characterized very shallow soil depth.

REST, in consultation with woreda and kebele administration, proposes to construct the store in the second option (alternative 2). Thus, the selected site from different aspects (environmental and social aspect) is better than the other two alternatives.

iii) Azeba FDP: The site is found in Azeba rural *Kebele* of Ganta Afeshum woreda. It is proposed to construct on farmland. There is hand-dug well within 150m distance in the downstream of the proposed site. There are also some acacia trees scattered on farmlands. Houses are far from the proposed site. The total area required for the FDP is estimated at 2.5ha for the store construction and other facilities. The topography is nearly flat.

iv) Sobeya FDP: Sobeya is found in Gulem Meheda woreda. The proposed site is within WFP's existing FDP site. The site is far from villages and there is no any sensitive ecosystem that can be affected by the construction of the store. As the depth of the soil is very shallow, the site is suitable for construction of structures.

v) Megab FDP: The site is found in Hawzien woreda. It is proposed to construct the store in farmlands. There are no villages as well as sensitive ecosystems close to the proposed site. The depth of the soil is shallow and hence the productivity of the farmland is low. However, the farmers who owned the farmlands would be negatively affected if they aren't compensated with the farmland at least with the same productivity. The local Administration has agreed to provide compensation given the importance of this store to the program.

vi) Wukro FDP: The site is found in Wukro town located 45 km north of Mekelle. The proposed site is found within WFP warehouse compound, which is made of Rubhall.

The community in all the proposed sites is willing and interested to construct the stores as they are suffering from traveling a long distance to take their ration. On average the capacity of the stores would be 2304m³ (12x32x6m³).

The major activities associated with the store construction and warehouse management are site clearing, construction and operation. Large machinery will not be mobilized to construct the stores with the stated capacity.

3. Evaluation of Activity/Program Issues with Respect to Environmental Impact Potential

This section is relevant to and should be considered part of Section Three of the original IEE of Joint Emergency Operation (JEOP/Ethiopia) page 18.

3.1. Site clearing phase:

Securing land that can be used for store construction; removal of the topsoil; and cutting trees are major activities in design and site clearing phase.

- Out of the total six FDPs three of them are proposed to be constructed in newly established sites and the rest of them will be constructed within existing FDP compounds where no ecosystem will be affected by the site clearing.
- In one of the three new FDP sites, the store will be constructed in rock outcrops where there is no vegetation and other sensitive ecosystem. However, two of the new FDP sites are selected in farmlands where there are few scattered trees. So improper site clearing can negatively affect the scattered trees on farmlands.
- One of them will be constructed in the upstream of hand dug well. So improper site selection (for example, close proximity) and clearing may negatively affect the hand dug well.
- The yield of the hand dug well may be reduced if the site is disturbed not only for the construction of store but associated activities.
- The farmers may lose their farmlands unless they are compensated with at least the same size and quality of farmland.

3.2. Construction phase:

Excavation, construction of temporary stores, and construction of the main stores are major activities in construction phase.

- In one of the sites, if the excavated soil/debris is not dumped properly, it may affect the hand dug well found in the downstream area.
- Since heavy machines will not be employed in the construction of these stores, compaction of sub-soil, noise and other similar impacts will be unlikely.

- Spread of transmitting diseases associated with workers may affect the local inhabitants.
- Workers may be affected by falling objects or they may fall down and be hurt.

3.3. Warehouse management/Operation phase:

Warehouse keeping like cleaning the stores and the backyard; loading and unloading; and spraying of chemicals, which is uncommon in FDPs are major activities under warehouse operation/management phase.

- Fumigation isn't common in FDPs because food commodities are typically stored less than a month- sometimes. But in exceptional cases, the food commodities could be infested by pests and there could be a possibility of fumigation. Other spraying pesticides can also be applied in FDPs. Application of fumigation isn't recommended in warehouses that are close to residents. So fumigation applied in warehouses that are close to residents may affect the inhabitants.
- Apart from fumigation spraying pesticides can affect the workers who will not use the personal protective equipments.
- The extent of pest infestation, including rodents can be high and damage the food commodities if the warehouse backyards aren't clean and infested by weeds. The frequency of pesticide application would also be increased.
- The hand dug-well, which was constructed by REST and located in the downstream of the proposed Azeba site, may be negatively affected by the runoff generated from the warehouse.
- Improperly loading and unloading of food commodities can spoil the food by rainfall.

4. Recommended Threshold Decision

This section is relevant to and should be considered part of Section Four of the original IEE of Joint Emergency Operation (JEOP/Ethiopia) page 19.

The following table describes the activities proposed for Negative Determination with Conditions pursuant to 22 CFR Regulation 216.

Table -1: Threshold Determinations for proposed activities of the FDPs construction under JEOP

| Activities | Threshold Determination & Reg. 216 |
|--|---|
| Design and Sites clearing phase: | |
| ➤ Securing land that can be used for store construction; | Negative Determination with Conditions as per 22CFR 216.3 (a)(2)(iii) |
| ➤ Removal of the top soil and excavation; | " " " |
| ➤ Cutting scattered trees | " " " |
| Construction of stores phase | |
| ➤ Excavation of soil materials | Negative Determination with Conditions as per 22CFR 216.3 (a)(2)(iii) |
| ➤ Construction of temporary and main stores | " " " |
| Operation and management phase: | |
| ➤ Cleaning the stores and the backyard | Negative Determination with Conditions as per 22CFR |

| Activities | Threshold Determination & Reg. 216 | | |
|-------------------------------------|------------------------------------|---|---|
| | 216.3 (a)(2)(iii) | | |
| ➤ Pesticide spraying and fumigation | ” | ” | ” |
| ➤ Loading and unloading | ” | ” | ” |

5. Recommended Mitigation Measures

5.1. Design and Site Clearing Phase:

- Minimize the clearing of scattered trees grown on farmlands. In the design period due attention will be given to minimize the clearing of trees.
- Where we can't avoid the cutting of the trees REST will compensate by planting similar tree species around the backyard and on other recommended places.
- To avoid impacts on hand dug well due to excavation of the top soil the proposed site will be located at least 200 meters far from the hand dug well.
- The site will not be located directly upstream of the hand dug well, rather it will be shifted in either direction so not to disturb the surface as well groundwater flow.
- REST has confirmed that the community itself has secured appropriate farmland to compensate those who will lose their farmland – these agreements/discussions were transparently done and based on free will. For example, beneficiaries in Azeba area have been formally requesting REST to construct a warehouse at the proposed site which is closer to most beneficiaries because they have been travelling long distances to get their rations from Adigrat (the zonal town). The Kebele leaders also assured that compensation will be given before the land is handed over to REST for the stated purpose.
- To improve the discharge of hand dug well the catchment area of the hand dug well will be treated with both physical and biological soil and water conservation measures.

5.2. Construction Phase:

- Construct drain diversion (cut-off) to protect the hand dug well from the impacts associated with warehouse management through runoff.
- Awareness will be given to workers to avoid the spread of transmitted diseases from the workers who are engaged in the construction. In addition, close supervision will be made by REST on workers to maintain good relationship with the local community.
- Apart from supervision given by contractors and REST, orientation will be given to workers in the beginning of construction to avoid injury by falling objects or falling down from buildings.

5.3. Operation and management Phase:

- To avoid fumigation in FDPs, food commodities will be checked for infestation before transporting from primary distribution points to FDPs.
- Distribute food commodities within a short period of time to reduce the time of stored in FDPs
- Apply fumigation by using quality tarpaulin and sandsnake; personal protective equipments (PPEs) including gas detectors and gas masks and preparing fumigation management plan (FMP) in cases where application of fumigation is mandatory. The

detailed Mitigation and Monitoring Plan have been addressed in the IEE Amendment #1 of the JEOP.

- d) Practice good warehouse keeping/integrated pest management in warehouses to avoid the pest infestation and thereby minimize pesticide application.
- e) Divert runoff generated from the FDP to protect the hand dug well.

6. Environmental Mitigation and Monitoring Plan

This section is relevant to and should be considered part of Section Four of the original IEE of Joint Emergency Operation (JEOP/Ethiopia) as well as Table 6 on pages 24 and Appendix 1 of the Pesticide Evaluation Report & Safer Use Action Plan (PERSUAP) prepared for (JEOP) on page 32.

To ensure the implementation of the proposed mitigation measures, the development of an environmental mitigation and monitoring plan (EMMP) is required. The EMMP will include possible impacts; mitigation measures designed for the identified impacts; monitoring schemes such as monitoring indicators, data sources; and frequency of monitoring. Responsible parties will also be assigned to follow up and implement the proposed mitigation measures. Table 2 shows the detailed EMMP for the proposed activities.

Table 2. Environmental mitigation and monitoring plan for IEE amendment # 2 of JEOP/Ethiopia

| Project Activity | Possible impacts | Mitigation Measures | Monitoring scheme | | | | Estimated cost |
|---|---|--|--|---|------------------|-------------------|--|
| | | | Monitoring indicator | Data sources | How often | Responsible Party | |
| Design and Site clearing phase | | | | | | | |
| Cutting scattered trees | ➤ Scattered trees grown in farmlands can be cleared | ➤ Minimize the clearing of scattered trees on farmlands | ➤ # of trees left on the proposed site | ➤ Field observation | ➤ Once in a year | REST | ➤ No cost is required |
| | | ➤ REST will compensate by planting similar tree species around the backyard and on other recommended places. | ➤ # of trees planted around the backyard | ➤ Field observation ➤ Progress reports | ➤ Once in a year | REST | ➤ Covered through REST NRM activities. |
| Securing land that can be used for store construction | ➤ The farmers may lose their farmlands for the construction of stores | ➤ Compensate farmers who lost their farmlands before the land is handover to REST for construction | ➤ # of farmers compensated for their farmlands | ➤ Field observation ➤ Progress reports | ➤ Once in a year | REST/ | ➤ No cost is required |
| | | ➤ The proposed site will be located at least 200 meters far from the hand dug well. | ➤ Length between hand dug well and the proposed FDP site | ➤ Field observation | ➤ Once in a year | REST | ➤ No cost is required |
| Removal of the topsoil | ➤ Hand dug well in the downstream of the FDP can be affected | ➤ The site will not be located directly upstream of the hand dug well. Rather, it will be shifted in either direction not to disturb the surface as well ground water flow | ➤ The direction of the proposed site shifted | ➤ Field observation | ➤ Once in a year | REST | ➤ No cost is required |
| | | ➤ The hand dug well catchment will be treated with soil and water conservation measures | ➤ Ha of land treated with soil and water conservation | ➤ Field observation | ➤ Once in a year | REST | ➤ No cost is required |

| Project Activity | Possible impacts | Mitigation Measures | Monitoring scheme | | | | Estimated cost |
|--------------------------------|---|---|--|---|------------------|-------------------|-----------------------------------|
| | | | Monitoring indicator | Data sources | How often | Responsible Party | |
| Construction phase | | | measures | | | | |
| | Excavation | Excavated soil/debris can affect the hand dug well found in the downstream area | ➤ Km of cut off drain constructed | ➤ Field observation ➤ Progress reports | ➤ Once in a year | REST | ➤ With the community mobilization |
| | | | ➤ # of workers received awareness raising training | ➤ Progress reports | ➤ Once in a year | REST | ➤ No cost is required |
| | Construction of temporary and main stores | ➤ Spread of transmitted diseases, associated with workers may affect the residents ➤ Workers may be affected by falling objects or they may fall down and be damaged | ➤ # of orientation sessions | ➤ Progress reports | ➤ Once in a year | REST/contractors | ➤ No cost is required |
| | | | | | | | |
| Warehouse management/operation | | | | | | | |
| Pesticide spraying fumigation | ➤ Pesticide spraying and Fumigation may affect the ecosystem and human health | ➤ Check the infestation of food commodities before transporting from primary distribution points to FDPs to avoid fumigation at FDPs | ➤ No infested food commodities transported to FDPs | ➤ ” | ➤ Once in a year | CRS PDPs | ➤ No cost is required |
| | | ➤ Distribute food commodities within a short period of time to avoid fumigation at FDPs | ➤ # of days the food commodity stayed in the warehouse | ➤ Field observation ➤ Progress reports | ➤ Once in a year | REST | ➤ No cost is required |

| Project Activity | Possible impacts | Mitigation Measures | Monitoring scheme | | | | Estimated cost |
|-----------------------|--|--|--|--|--|--|--|
| | | | Monitoring indicator | Data sources | How often | Responsible Party | |
| | | <ul style="list-style-type: none"> ➤ Apply fumigation and spray pesticides by using quality tarpaulin, sand snake and PPEs ➤ Prepare fumigation management plan (FMP) in cases where application of fumigation is mandatory. | <ul style="list-style-type: none"> ➤ Use of quality tarpaulin and sand snake; and PPEs ➤ # of FMP prepared | <ul style="list-style-type: none"> ➤ Field observation ➤ Field observation | <ul style="list-style-type: none"> ➤ Once in a year ➤ Once in a year | <ul style="list-style-type: none"> REST/private fumigator REST/private fumigator | <ul style="list-style-type: none"> ➤ No cost is required ➤ No cost is required |
| | <ul style="list-style-type: none"> ➤ The hand dug well, can be affected by improper disposal of pesticides and the containers through the runoff generated from the warehouse | <ul style="list-style-type: none"> ➤ Divert runoff generated from the warehouse not to affect the hand dug well | <ul style="list-style-type: none"> ➤ Km of cut off drain to protect hand dug well | <ul style="list-style-type: none"> ➤ Field observation | <ul style="list-style-type: none"> ➤ Once in a year | <ul style="list-style-type: none"> REST/private fumigator | <ul style="list-style-type: none"> ➤ No cost is required |
| | <ul style="list-style-type: none"> ➤ Pest infestation in the store and backyard can be aggravated unless weeds and trashes are regularly cleaned | <ul style="list-style-type: none"> ➤ Practice good warehouse keeping/integrated pest management in warehouses to avoid pest infestation and thereby minimize pesticide application | <ul style="list-style-type: none"> ➤ Clean warehouse backyard | <ul style="list-style-type: none"> ➤ Field observation | <ul style="list-style-type: none"> ➤ Once in a year | <ul style="list-style-type: none"> REST/private fumigator | <ul style="list-style-type: none"> ➤ No cost is required |
| Loading and unloading | <ul style="list-style-type: none"> ➤ Improperly loading and unloading of food commodities can spoil the food | <ul style="list-style-type: none"> ➤ Ensure that the food commodities are covered with tarpaulin during transportation | <ul style="list-style-type: none"> ➤ # of lorries covered with tarpauline during transporting food commodities | <ul style="list-style-type: none"> ➤ Field observation | <ul style="list-style-type: none"> ➤ twice in a year | <ul style="list-style-type: none"> REST | <ul style="list-style-type: none"> ➤ No cost is required |